

Canon
F-1

SERVO EE FINDER



INSTRUCTIONS

English Edition

The Canon Servo EE Finder is interchanged with the pentaprism section of the Canon F-1, coupled to the full aperture metering mechanism and preset to the proper f/stop automatically with shutter speed priority. It is vibration- and shock-proof, and has fast response to light intensity because of the use of a servo-motor. Metering information can be read off inside the viewfinder. Since the centrally-weighted averaging system is used, a most satisfactory exposure can be obtained when shooting scenery that includes the sky.

Unmanned continuous shooting, such as recording for ecological and other experiments, is possible through the combined use of the Motor Drive Unit.



Technical Data

Circuit Construction: 19 transistors, 7 diodes, 6 condensers, variable resistor, 4 semifixed resistors, 31 fixed resistors, 1 motor, 1 lamp.

Metering Element: 2 CdS photocells. Situated on both sides of pentaprism eyepiece section.

Metering System: Centrally-weighted averaging system with full aperture metering.

Metering Range: With ASA 100 film, EV 2.5 (f/1.2 at 1/4 sec.)-EV 18 (f/11 at 1/2000 sec.).

Film Speed: ASA 25-2000.

25 . . 50 . . 100 . . 200 . . 400 . . 800 . . 1600 .
(32)(40)(64)(80)(125)(160)(250)(320)(500)(640)(1000)(1250)(2000)

EE System: Shutter speed priority, controlled by Servo Motor. Preset to proper f/stop.

Shutter Speed: 1/2000-1 sec., B. (EE circuit is disconnected at "B".)

Manual Aperture Control: Possible with main switch.

Viewfinder: Eye-level using pentaprism. Dioptic adjustment adapter interchangeable. Eyecup, Angle Finder B, and Magnifier attachable. With eyepiece shutter. Magnification, 0.77x with 50mm lens at infinity.

Meter Information: f/stop scale, aperture needle, warning marks.

Full Opening f/stop Correction: By lens speed adjustment dial. Indicated inside viewfinder.

Power Source: 8 or 10 penlight batteries, or the exclusive NiCd 500 FZ. Connected With Cord 12V 2E. Use Battery Connector MD when Motor Drive Unit is attached. With built-in battery checker.

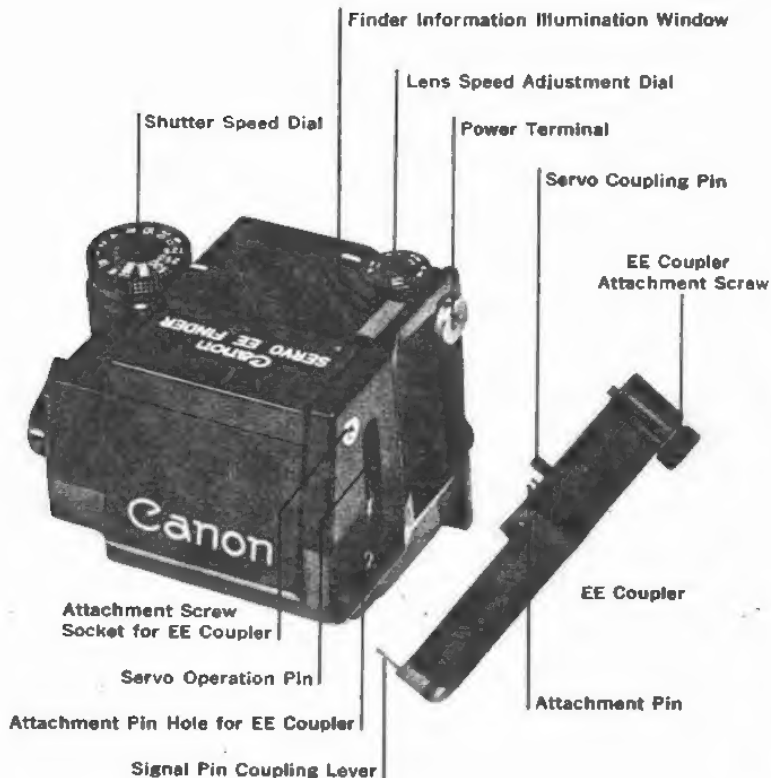
Attaching: By removing the pentaprism section of the camera. EE Coupler used.

Size: 75 x 65 x 68mm (3" x 2-1/2" x 2-5/8").

Weight: 417 grams (14-3/4 oz.), with EE Coupler.

Accessories: EE Coupler, Battery Case, Battery Magazine, Eyecup, Cord 12V 2E, Case, NiCd 500 FZ, Pentaprism Cover, Battery Connector MD (for Motor Drive Unit).

Subject to alterations.



Battery Check Button

Attachment Stopper

Lever Switch

Power Level Indicator

Cord 12V 2E

Eyeiece Shutter Knob

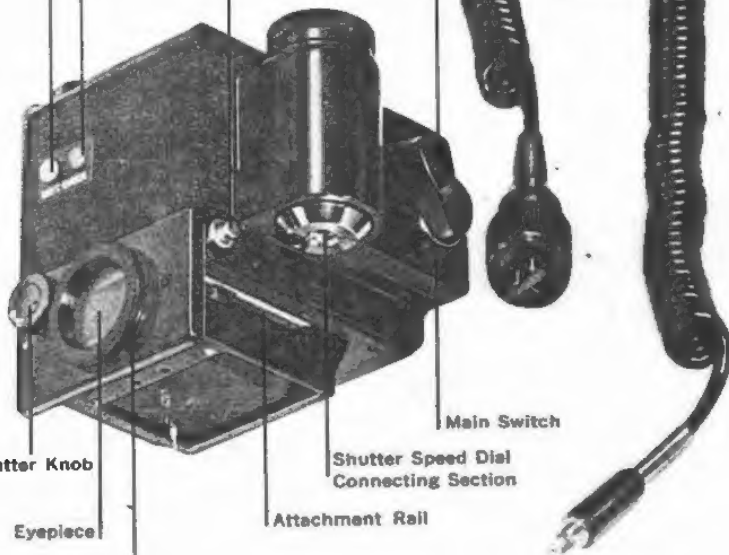
Eyeiece

Dioptric Adjustment Adapter

Main Switch

**Shutter Speed Dial
Connecting Section**

Attachment Rail



Loading Batteries

The Battery Case, containing Battery Magazine 12V with eight penlight (size AA) batteries, Battery Magazine 15V with ten penlight batteries, or NiCd 500 FZ (the nickel cadmium batteries in a pack) is used as the power source for the Servo EE Finder.

1 To load the penlight batteries into the Battery Magazine 12V, first remove its cover by loosening the two knobs. Insert the batteries properly according to the diagram outside the Magazine. And then replace the cover by matching its three projections with the holes on the Magazine and by tightening the knobs.

■ Load the batteries into Battery Magazine 15V by inserting minus (-) poles first.

■ The NiCd batteries come as a unit.

2 Remove the bottom cover of the Battery Case by sliding it either to left or right. Facing the battery contacts upwards, load Battery Magazine 12V or NiCd 500 FZ properly by matching the groove on Battery Magazine 12V or the 500 FZ and the guide line inside the Battery Case, and replace the bottom cover.

The Battery Magazine 15V can be loaded by matching the green marks on the Magazine and inside the Battery Case.

3 Replace the bottom cover of the Battery Case.

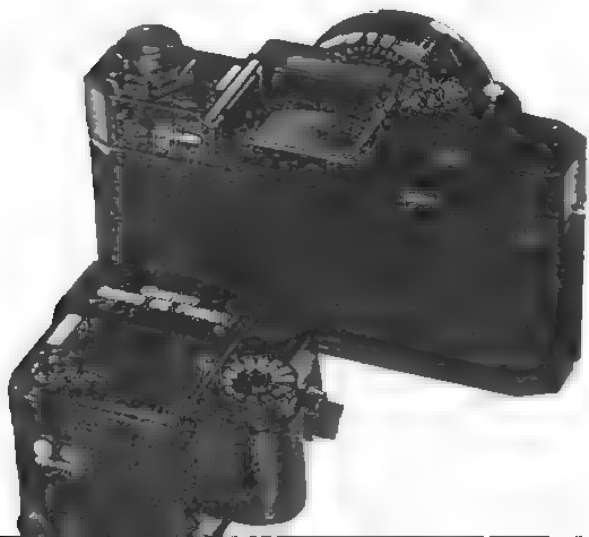
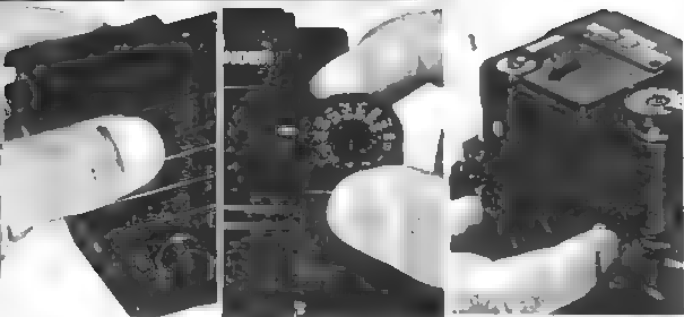
4 The Battery Case and the Servo EE Finder are connected by the Cord 12V 2E.





Attaching Procedure

- 1** Set the aperture ring of the lens at the green mark (circle) for EE use.
- 2** Slide the pentaprism section of the camera backwards and remove it by depressing the attachment stoppers. Remove the dust cover of the Servo EE Finder.
- 3** Set the shutter speed dial of the camera anywhere between "1" and "30". The shutter speed dial of the Servo EE Finder can be set anywhere.
- 4** Align the attachment rails of the Servo EE Finder and slide in from the rear.
- 5** Turn the shutter speed dial slightly to left or right, so that it will couple with the shutter speed dial of the camera.



6 Set the film speed scale on the Servo EE Finder at the film speed of the film to be used. Lift and turn the ring around the shutter speed dial. This can be performed more easily while pressing the center of the dial.

■ When detaching, slide the Servo EE Finder backwards while depressing the attachment stoppers.

7 Connect the Battery Case to Servo EE Finder by using the Cord 12V 2E. Plug the connectors into the Finder and the Battery Case, and then tighten the connector of the Battery Case side by turning its outer ring.

8 By setting the main switch at "M", the servo operation pin will descend to its attachment position.

■ The Servo EE Finder will function properly only when the servo operation pin is at its attachment position. Be sure to perform the above operation before attaching the EE Coupler.

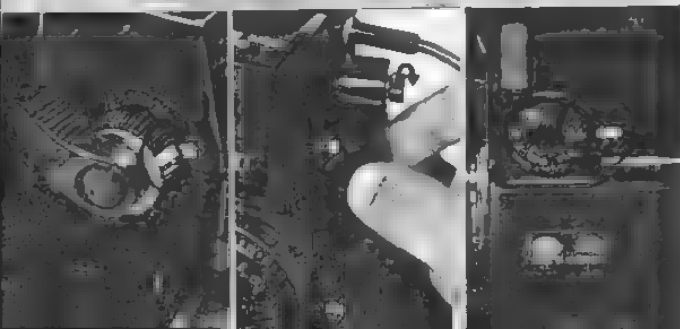
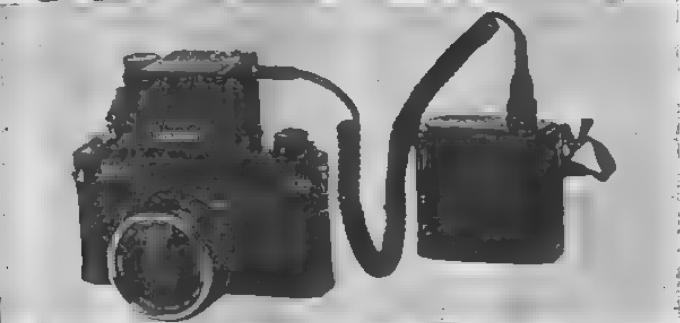
9 Open the cover for the servo operation pin, situated on the camera by the side of the mirror box, insert the EE Coupler while aligning its attachment position, and tightening it with the coupler attachment screw.

10 Adjust the lens speed adjustment dial by setting the proper lens speed, i.e., the full opening f/number of the lens to be used.

■ The lens speed scale of the adjustment dial:

(1.2) 1.4 (1.8) 2 (2.5) 2.8 (3.5) 4 5.6

Figures in parentheses denote values for white dots.



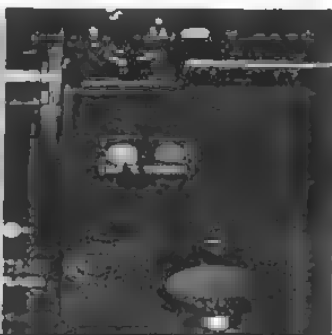
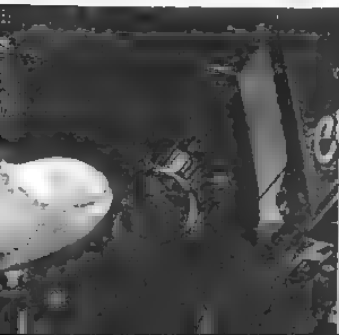
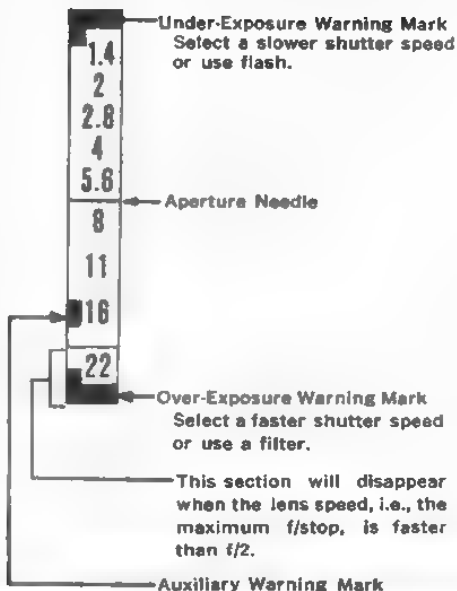
11 When the lens speed adjustment dial is turned, the f/stop scale of the meter reading window slides and the lens speed is indicated just below the under-exposure warning mark as a maximum f/stop.

When the aperture needle points to the under- or over-exposure warning mark, change the shutter speed.

Use the auxiliary warning mark as an over-exposure warning when using lenses with the minimum f/stop of f/16; i.e., FD 24mm F2.8, FD 28mm F3.5, FD 35mm F3.5, and FD 35mm F2.

12 Set the main switch to the red mark.

13 Press the battery check button on the rear section of the Finder. If the indicator lights up, it means there is sufficient power level in the batteries. Otherwise, replace all of the batteries simultaneously with the same make.



Operation

- 1 First, decide the shutter speed.
- 2 Use either the main switch or lever switch. Full aperture metering is used.
- 3 When the main switch is at the red dot position, the power circuit is disconnected. However, if the lever switch is depressed, the circuit is connected and metering starts by motor drive.

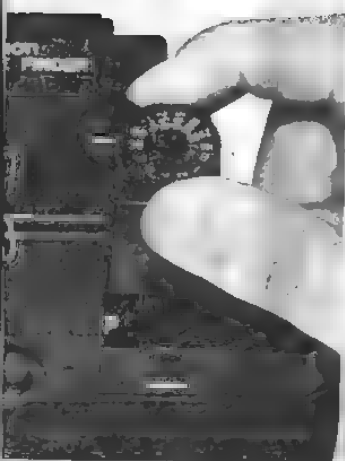
When the proper f /stop is obtained, the motor and aperture needle will stop. When you release your finger from the lever switch, the aperture needle becomes clamped. Proper exposure is obtained when the shutter release button is depressed.

■ This method is convenient when shooting is continued with a fixed f /stop.

- 4 When the main switch is set at "L", the lever switch is also fixed at "L" position, and continuous metering becomes possible. Depress the shutter release button after the motor drive has stopped and the aperture needle has pointed to the proper value.

When the lever switch is returned to its former position, the main switch is released from its locked condition and reset at the red dot.

■ When shooting with the main switch in a locked condition, use a shutter speed faster than $1/15$ sec. If slower shutter speeds than $1/8$ sec. are used, the picture will be over-exposed because the mirror springs up and cuts off the light coming to the



CdS photocell which in turn activates the motor and shifts the aperture to the full opening side.

5 When the main switch is set at "M", the EE circuit is disconnected and the aperture can be set manually.

■ This method is not recommendable because the servo motor circuit is not disconnected and the power is consumed.

■ The aperture cannot be manually closed down beyond the f/stop indicated in the meter reading window, if the main switch is not set at "M".

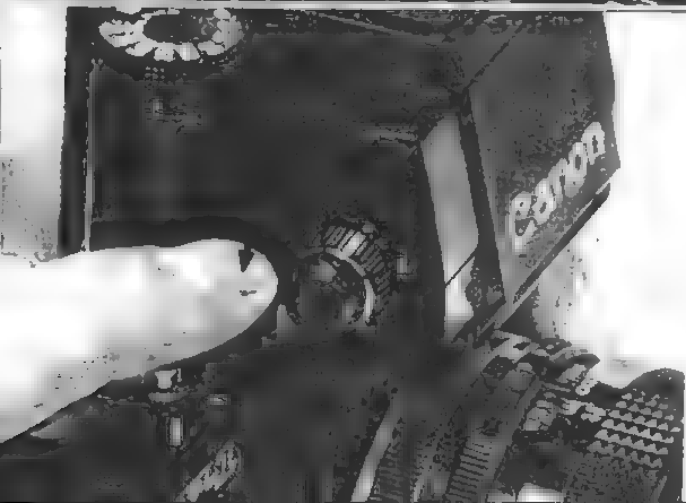
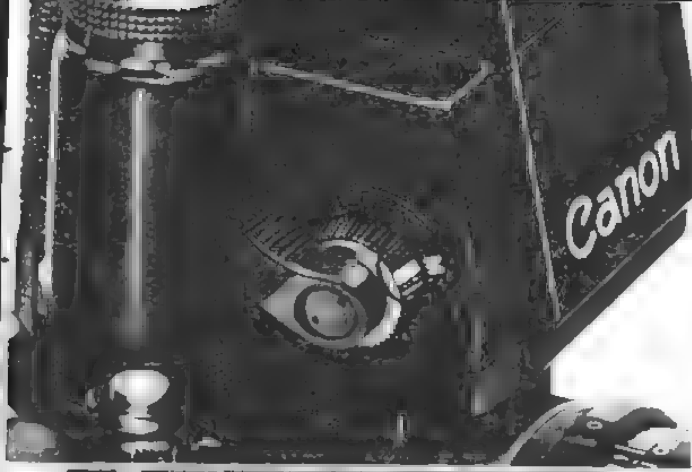
6 When the shutter dial is set at "B", the EE circuit is disconnected and the aperture needle points to the bottom of the meter reading window. In this case, the aperture can be also preset manually.

■ When using ■ shutter speed at or slower than 1/8 sec., be sure to use the method as described in item #3 by setting the main switch at the red dot.

Detachment

1 When removing, be sure to first detach the EE Coupler before removing the Servo EE Finder. Otherwise, the coupling socket will be damaged.

2 Slide the Servo EE Finder towards the rear while pressing down on the attachment stoppers.



Joint Use with Motor Drive Unit

When used jointly with the Motor Drive Unit, first attach Battery Connector MD to the Battery Case, and then connect Connector MD to the Servo EE Finder by using Cord 12V 2E. The cord of Battery Connector MD is connected to the Motor Drive Unit.

The setting of continuous, single-frame and high speed photography and the selection of the shutter speed is performed according to the Motor Drive Unit side. Attachment and other manipulations are performed independently of the shutter speed.

■ Continuous lock of 1/8 sec. or under is not possible when the Servo EE Finder is used independently. However, when it is used jointly with the Motor Drive Unit, slow shutter speeds can be selected and used according to the Motor Drive Unit.

Precautions

- 1 Set the eyepiece shutter knob at "C", for closing, when shooting with your eye away from the viewfinder in such cases as when a self-timer or the Motor Drive Unit is used jointly.
- 2 Connect the power source and descend the servo operation pin by setting the main switch at "M", before attaching the EE Coupler.
- 3 Do not forget to adjust the lens speed adjustment dial. Otherwise, the readings will be incorrect.
- 4 In high temperatures of 45°C (113°F) or more, there is a tendency for over-exposure. Therefore, protect the Servo EE Finder from the sun's rays.

When used jointly with the Motor Drive Unit for unmanned photography under the sun, place a cover over the Finder to protect it from the sun.

5 Under conditions when light does not enter from the top section, the aperture needle inside the viewfinder will be difficult to see. In these cases, provide light to illuminate the viewfinder.

6 Interchange Finders quickly in the shade.

7 The Servo EE Finder will not function if the cord of Battery Connector MD is not connected to the Motor Drive Unit socket.

8 When using the Servo EE Finder, be sure not to use the stopped-down functioning lever of the camera.



Film Chamber 250

By attaching Film Chamber 250 to the Servo EE Finder and the Motor Drive Unit, the Canon F-1 can take up to 250 exposures, using long-length roll film, with automatic exposure control and motor drive.

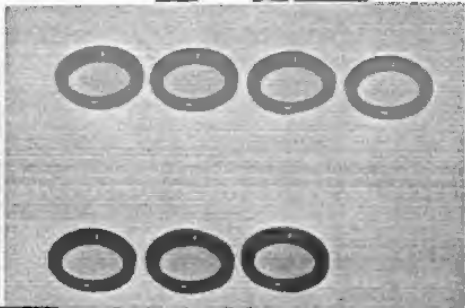
Furthermore, this type of photography can be performed unmanned and continuously with the use of a cable release with lock or Remote Switch MD.

Dioptric Adjustment Lenses

The screw-in type dioptric adjustment lenses are available as optional attachments. When a dioptric adjustment lens is attached to the viewfinder eyepiece, those who are far- or near-sighted can take pictures without glasses. Seven different diopters are available.

Magnifier

The Canon Magnifier can be attached to the viewfinder eyepiece which magnifies the rangefinder section for accurate focusing. Because it can be sprung up and clamped, the entire field of view can easily be viewed after focusing.



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